

Human Populations and Carrying Capacity

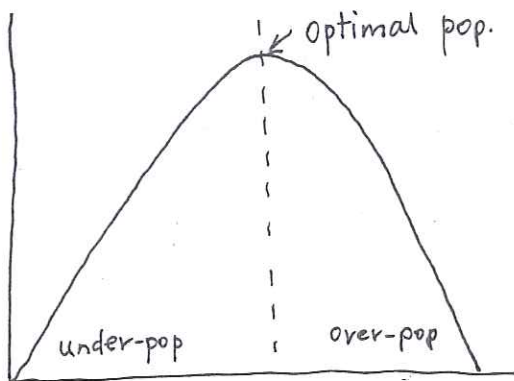
3.7.1 Explain the difficulties in applying the concept of carrying capacity to local human populations.

* Think In Terms of Over or Under-populated Areas.

The Maximum # of people Sustainably supported by a given environment.

↳ BUT this depends on: future behavior, technology, & changes in resource needs.

↳ ALSO * Humans use a large range of Resources
* We substitute one Resource for another when we need to
* We import Resources



Far more Resources in the area than the pop. living there needs.
ex. CANADA

Optimum-Pop.
of people perfect for abundance of Resources.

Too many people in the area relative to the abundance of Resources.
ex. India

"SWEET SPOT"

Produces greatest per capita return (\$)
Highest standard of living & quality of life.

LOTS OF PREDICTIONS HAVE BEEN MADE ABOUT HUMAN CARRYING CAPACITY —

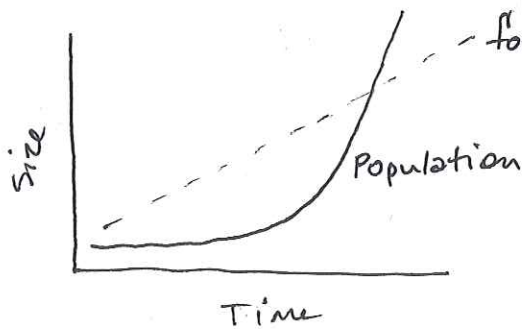
- * MALTHUS 1798
- * BOSE RUP 1960's
- * CLUB OF ROME 1970
- * COHEN 2010

MALTHUS vs. BOSERUP

1960's

1798

- finite pop. size due to food production.



Limitations

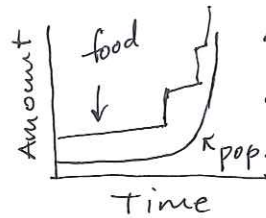
- Too Simplistic
- Problems w/ distribution of resources NOT limits on production
- globalization means resources aren't 'closed'
- green revolution & technology change food supply

- As pop. increases so too will our tech. Knowledge → new solutions

- ↑ people in pre-indust. society (stage 1/2) Drove new Agricultural methods, more food

↳ IN REAL LIFE:

To improve Ag we:



- Malthus → 2 checks on pop. once pop. ceiling has been reached.

↳ Preventive √'s → no marriage, delay in marriage, abstinence from sex

↳ Positive √'s → lack of food, disease, war

- drain wetlands
- reclaim lands
- Selective Breeding of cattle & plants
- dev. of high yield crops
- terracing on steep slopes
- crops in greenhouses
- irrigation
- new foods
- Artificial Fertilizers
- Farming native orgs
- Fish Farming.

But Industrial Revolution & Green Revolution

- ↑ human pop. growth
- ↑ food production

↑ Very Technocentric View of the World

Limitations

- Also assumes a ~~a~~closed society No globalization.
- Lots of Immigration & Emigration
- Overpopulation can lead to unsustainable farming practices.

* CLUB OF ROME →

1970

Predicted that:

- Pop + Pollution will ↑ after industrialization peaks
- Pop will ↓ when deaths ↑ due to lack of food + medicine.

⇒ Present trends will continue for another 100 yrs. then there will be a sudden decline.

⇒ Can still change this trend by becoming sustainable.

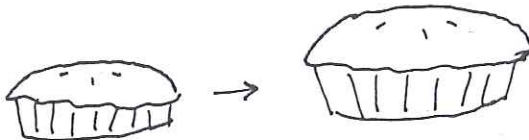
Evaluate:

- Model doesn't distinguish bet. parts of the world.
- ignores spatial distribution of resources, pop., industry, + pollution.
- doesn't emphasize discovery of new resources + new users of resources.

* COHEN 2010

How To ↑ Global Carrying Capacity

①



"Bigger Pie"
Use new Technology to
↑ Productivity.

②



"Fewer Forks"
Reduce consumption/
Use of Resources.

③



"Better Manners"
Better government +
fairer markets.